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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/676,271 | 10/02/2003 | Brian Johnston | 0818.0173C | 3447 |

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| EXAMINER |
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BODAWALA, DIMPLE N

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| ART UNIT | PAPER NUMBER |
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1722

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 01/16/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/676,271

Applicant(s)

JOHNSTON ET AL.

Examiner

Dimple N. Bodawala

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3 - 18, 20 - 21, and 42 - 43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3 - 18, 20 - 21, and 42 - 43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Claims 1, 3 – 18, 20 – 21, and 42 – 43 are pending.

In view of the amendment, filed on November 3rd, 2006 following rejections are hereby withdrawn.

Rejections of claims 1 – 4, 6 – 7, 9 – 10, 13 – 18, and 42 – 43 under 35 U.S.C. 102 (b) over Barbier et al. (U S Patent No. 6,164,950).

Rejections of claims 1 – 11, 13 – 19, and 42 – 43 under 35 U.S.C. 102 (b) over Uraya et al. (U S Patent No. 3,659,989).

Rejection of claim 8 under 35 U.S.C. 103 (a) over either of Barbier et al. (U S Patent No. 6,164,950) or Moderlak et al. (U S Patent No. 4,437,827) in view of either Anderson et al (U S Patent No. 5,705,203) or Kromey (U S Patent No. 5,009,687) is maintained for the reason of record as given in the previous office action, mailed on May 3rd, 2006.

Rejection of claims 1, 3-4, 6-7, 9-18, 20-21, and 42-43 under 35 U.S.C. 102 (b) over Moderlak et al. (U S Patent No. 4,437,827) is maintained for the reason of record as given in the previous office action, mailed on May 3rd, 2006, which is further given below.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim 1, 3-4, 6-7, 9-18, 20-21, and 42-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Moderlak et al. (U S Patent No. 4,437,827).

Moderlak et al teaches a temperature control system having

Claim 1: a plurality of metering pump assemblies including inlets to receive a plurality of molten streams from a source (Fig 2, #14)

disposed downstream from the metering pump assemblies and aligned to receive molten material from the metering pump to deliver the molten material to the spinneret (Fig 1 , #20);

wherein the flow paths are arranged in flow path sets and each flow path set includes at least one flow path and is spaced a selected distance from the other flow path sets so as to facilitate independent control of the temperature of a molten material flowing through each set (col 3, lines 1-33),

Claim 2: each flow path set includes a plurality of flow paths, and each metering pump assembly includes an inlet to receive a molten material

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stream from a source and a plurality of outlets to direct molten material to the flow paths for a respective flow path set (Figs 1 and 2);

Claim 3: insulation material disposed between the flow path sets (col 3, Line 47);

Claim 4: the at least one flow path set includes a thermal treatment unit to independently maintain molten polymer flowing through the at least one flow path set within a selected temperature range (Fig 2, #27 and col 2, lines 50-52);

Claim 6: the flow paths have conduits disposed within a chamber (Fig 2);

Claim 7: the chamber includes insulation material surrounding the conduits (col 3, line 47);

Claim 9: the chamber is partitioned into a plurality of sub-chambers, and the flow path sets are disposed in separate sub-chambers (Figs 3-6);

Claim 10: each sub-chamber includes a heat treatment unit to independently maintain molten polymer flowing through each sub chamber within a selected temperature range (col.3, lines 50-52);

Claim 11: the heat treatment unit for at least one sub-chamber has an inlet and an outlet to the sub-chamber, and the inlet is securable to a thermal

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supply source to facilitate delivery of a temperature-controlled fluid into and out of the sub-chamber (Fig1, #s 25 and 26 and col 3, lines 50-52);

Claim 12: the chamber is defined between a top plate disposed adjacent the metering pump assemblies and a bottom plate opposing the top plate, and the top plate further includes a grooved sections disposed at selected locations between metering pump assemblies (Fig 2);

Claim 13: the Now paths have channels extending through portions of a pump block (Fig 2);

Claim 14: the pump block is partitioned into a plurality of sub-sections via at least one insulation material, and the flow path sets are disposed in separate sub-chambers (Fig 2) ;

Claim 15: a spin pack including the spinneret and a spin beam including a thermal treatment unit to heat the spin beam and spin pack (Figs 3-6);

Claim 16: the chamber includes insulation material surrounding the conduits and disposed between the flow path sets to partition flow path sets into a plurality of sub-sections (col 3, line 47);

Claim 17: the spin pack is partitioned into sub-sections via the insulation material (Fig 2);

Claim 18: a spun bond fiber extrusion system;

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Claim 19: wherein each metering pump assembly includes a pump chamber and a pump disposed within the pump chamber (Fig 2, #14);

Claim 20: independent control of pumps (abstract and col 4, lines 40-52); and

Claim 21: a pump chamber connected to a thermal fluid supply source to direct thermal fluid toward the pump (abstract and col 4, lines 40-52).

The examiner notes that the limitation “increase by no more than about 50% of the difference between the spin beam temperature and an inlet temperature of the molten polymer stream” is a process limitation and that the cited art is capable of performing the process.

Moderlak ('827) discloses all the claimed structural limitations, and, thus, the claims are anticipated.

NEW GROUND OF REJECTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as obvious over Moderlak et al. (U S Patent No. 4,437,827) in view of Uraya et al. (U S Patent No. 3,659,989).

Moderlak et al. (U S Patent No. 4,437,827) disclose all structural limitation as discussed above, but do not disclose the sensor to measure the temperature range and also the insulator made of.

In the analogous art, Uraya ('989) discloses at least one flow path set includes at least one sensor to measure at least one temperature and pressure of the molten polymer (see col.7 lines 3 – 52) and also discloses the heat insulator, which is moulded into the block having the suitable thickness with a known heat insulator with the insulation material such as glass beads (see col.6 lines 35 – 43).

It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention by providing the sensor and the glass beads as the solid insulation material in Moderlak ('827) apparatus as suggested by Uraya ('989) because such alignment maintains the temperatures of the material with different viscosities, melted separately, provided excellent insulation and also retarded transmission of heat between the molten materials until they are extruded together (see abstract).

Response to Arguments

Applicant's arguments filed November 03, 2006 have been fully considered but they are not persuasive.

Applicant argued that the prior art, Moderlak ('827) does not disclose the plurality of metering pump assemblies to receive the plurality of molten polymer streams from at least one polymer supply source that is connectable to the system, each metering pump assembly including a pump chamber and a pump disposed within the pump chamber.

This is not found persuasive because the prior art, Moderlak ('827) discloses figure 2 which is clearly described the plurality of pump assemblies which is connected to the plurality of flow path sets, and also the pump are placed in the chamber which is made of the side walls (See figures 1 and 2, col.3 lines 60 – 66).

Applicant also argued that the claimed invention in claim 12 is distinguished from the prior art, Moderlak ('827). In addition, Applicants fail to see where the features of metering pump assemblies is expressly or implicitly taught in Figure 2, or anywhere else for the matter, in Moderlak. Therefore, it is respectfully submitted that this feature further distinguishes the claimed invention from Moderlak.

This is not found persuasive because the prior art, Moderlak ('827) discloses figure 2 which comprises all structural limitation as discussed in claim 12. Moderlak et al. ('827) discloses the plurality of pump assemblies (14) including the inlet to receive the molten material from a source. Figure

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1 discloses the pump unit (14) by including the chamber (9) and a pump, which is disposed within the chamber (also see figure 2). The prior art teaches that the thermal treatment unit to maintain the temperature range among the flow path set while the molten material is flowing through the flow path sets (See col.1 lines 43 – 55; col.2 lines 49 – 56; and figure 2 Reference No. 27).

Furthermore, the prior art teaches that the chamber is defined between the top plate disposed adjacent the metering pump assemblies and a bottom plate opposing the top plate, and the top plate further includes a grooved sections disposed at selected locations between the metering pump assemblies (see figure 2; and col.1 lines 18 – 25; col.2 lines 43 - 46).

Furthermore, figure 2 discloses the flow path have channels extending through the portion of a pump block which is filled by the metal (See col.3 lines 45 – 47), the pump block which is partitioned into a plurality of sub-chamber via at least one insulation material, and the flow path sets are disposed in the separate sub-chamber, and the chamber that includes insulation material surrounding the conduits and disposed between the flow path sets to partition flow path sets into a plurality of sub-section (See col.3, line 47). It also discloses the spin pack by including the spinneret and a spin beam including the thermal treatment unit to heat the spin beam and spin

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pack (See figure 3 – 6), and also the spin pack, which is partitioned into the sub-sections via the insulation material (See figure 2).

For further clarification, see the rejection of claims 1, 3-4, 6-7, 9-18, 20-21, and 42-43 under 35 U.S.C. 102(b) over Moderlak et al. (U S Patent No. 4,437,827).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Schafer (U S Patent No. 6,083,432), Moderlak et al. (U S Patent No. 4,437,827), and Uraya et al. (U S Patent No. 3,659,989).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dimple N. Bodawala whose telephone number is (571) 272-6455. The examiner can normally be reached on Monday - Friday at 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Yogendra N. Gupta can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DNB



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